PROJECT NUMBER: 1503
PROJECT TITLE: Modified Smoking Materials
PROJECT LEADER: J. G. Nepomuceno
PERIOD COVERED: April, 1988

I. FOAMED FILLER BINDER

A. **Objective**: Develop a process for applying a subjectively acceptable binder to the tobacco filler during making to improve cigarette quality.

B. **Results**: Test results using a binder formulation consisting of 48% maltodextrin and 5% licorice (added as a foaming agent) showed cigarette quality improvements in terms of firmness and loose ends reduction in preliminary testing conducted to screen the maltodextrin-based formulations. Based on these results, an experimental design utilizing extended production runs with this foamed binder solution is in progress at the Semiworks. These cigarettes are being produced with 0.8% binder solids added to the rod. In addition, an OV adjustment of 0.5% is being made to the test filler in order to compensate for the OV increase due to the binder addition. The first of these extended runs has been completed and the cigarettes are currently being tested for physical quality and subjectives. Flavor Development panel smoking results to date have shown significant differences between the control cigarettes (no binder) and the test cigarettes (0.8% binder addition), with negative attributes being associated with the test cigarettes. In this light, additional extended runs with the maltodextrin formulation have been postponed until maltodextrin from alternate suppliers (different processing conditions) can be screened subjectively. Hand-injected models have been prepared for subjective screening and will be smoked next week. Additional runs on the experimental design will be completed with the most preferred candidate.

C. **Plans**: Perform subjective screening of the maltodextrin from alternate suppliers and complete the experimental design with the most preferred candidate.

II. LOW DENSITY ROD (BINDER APPLICATION)

A. **Objective**: Produce pre-coated tobacco via the batch process to support the current product and process development efforts for the low density rod program. Develop a method of pre-applying binders to the tobacco in a manner that can be easily scaled up for commercial use.

B. **Results**: Initial trials with the continuous coating reel using a 4% pectin solution look promising. Modifications to the nozzle arrangement (to keep tobacco from accumulating at the nozzle) as well as modifications to the tobacco feeding system are still in progress. However, the initial trials showed no major problems in terms of applying a 3% coating of pectin on the tobacco. These trials with pectin were performed over a 30 to 60-minute period.

2000459544

Source: https://www.industrydocuments.ucsf.edu/docs/pgfm0000